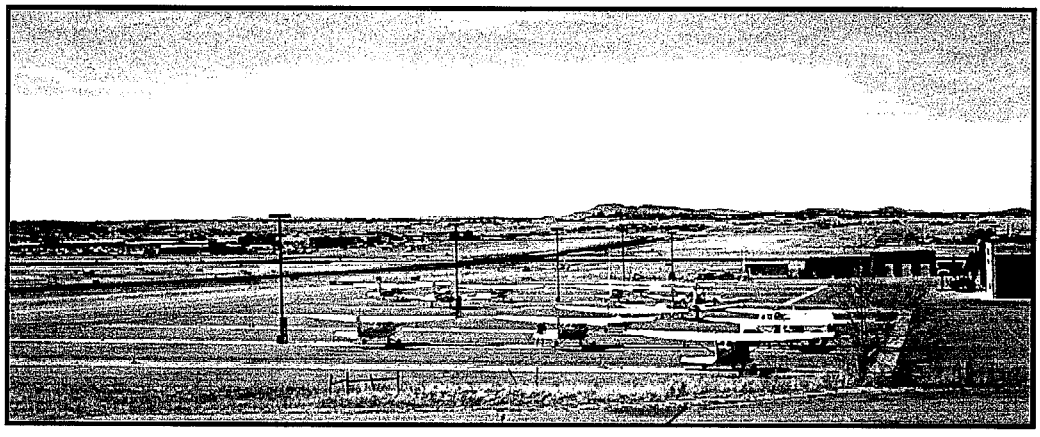
Chapter Four
DEVELOPMENT ALTERNATIVES

DEVELOPMENT ALTERNATIVES



In the previous chapter, "unconstrained" facility needs for the twenty-year planning period were identified. The next step in the planning process is to examine the options available within the existing resources of the Ernest A. Love Field and determine the airside and landside alternatives that will maximize use of these resources. Once the airside and landside alternatives have been selected, the level of aviation activity that can be accommodated can be approximated.

CONCEPTUAL DEVELOPMENT ALTERNATIVES

The overall purpose of this chapter is to evaluate both airside and landside alternatives based on environmental, economic, and aeronautical factors to determine which alternatives best accommodate as much of the local aviation demand as possible. Three conceptual alternatives are described in detail in the following sections, including a no-build alternative, relocating demand to other airports and developing the existing airport site.

NO-BUILD ALTERNATIVE

In analyzing and comparing the costs and benefits of various development alternatives, it is important to keep in mind the consequences of no future development at Ernest A. Love Field. The "no-build" alternative essentially involves maintaining the airport in its present condition and not providing for improvements to the existing facilities. The primary result of this alternative would be the inability of the airport and the system to accommodate the

demands being placed upon it by its users in the future.

The facility requirements chapter identified the need for additional landside facilities (i.e., terminal space, T-hangars/shades, tiedowns, automobile parking, etc.). Without these facilities the users of the airport will be unable to take maximum advantage of their air transportation capabilities. Just as important will be the City's ability to attract or serve new users, especially potential businesses and industries relocating to the area.

With these restrictions in mind, the "no-build" alternative would not be in the best interest of the airport users or the economy of the surrounding communities.

TRANSFER SERVICE TO OTHER AIRPORTS

The transfer of aviation services either to a new site or to another existing airport is an alternative that should be considered before improving the existing facility. While this option may be favored by those residing closest to the airport, the relocation of an airport is a complex and expensive alternative which can have far-reaching impacts.

In addition to the major financial investment, the development of a new airport also takes a commitment of extensive land area. The location of a new site is usually undeveloped, resulting in potential impacts to wildlife habitat, ranch or farmland, and cultural resources. These impacts are generally greater than at an existing site which has additional development capability, such as Ernest A. Love Field.

Regional economic impacts may also be expected when relocating an airport facility. Airports provide an economic benefit and advantage to communities in which they are located. When airports are relocated, there is no guarantee the most feasible site will be located within the same community. The high costs associated with new airport development will also continue to limit the number of new facilities that the aviation industry and the public can adsorb. It is prudent, therefore, to maximize existing public investment to meet future needs, before abandoning that investment simply to duplicate it elsewhere.

Regarding the possibility of relocating services to another, existing airport in the area, this option is also considered to be neither feasible nor prudent. The nearest commercial service airport to Ernest A. Love Field is in Flagstaff, approximately a two hour drive from Prescott. The second closest commercial service airport is in Phoenix, approximately a two hour drive. As for general aviation service, Cottonwood Municipal Airport is located approximately 25 miles northeast of Ernest A. Love Field. This airport would be considered inconvenient for the transient pilots and passengers with business in Prescott, and with the majority of pilots and aircraft owners who base at Ernest A. Love Field.

Given the above considerations, it was determined that further development of the existing airport would accommodate future demands with far less capital

improvements and expenditures than would be true in relocating aviation services elsewhere. This alternative was, therefore, not considered further.

DEVELOP EXISTING AIRPORT SITE

As identified in the previous chapter, additional facilities are necessary in order to meet the future aviation demand at Ernest A. Love Field. Undeveloped property on or adjacent to the airport and redevelopable portions of the existing airport property should be examined for their ability to support aviation activity. The amount and type of development that can be accommodated is the subject of further analysis in this chapter.

The following criteria were developed after a thorough analysis of the facility's capacity, "unconstrained" forecast demands, existing limitations, and input provided during the *"Love Field Beyond 2000"* visioning conference for Prescott Airport held in October 1996.

- **Runway Length:** Examine the feasibility of extending the primary runway to 9,300 feet and the parallel runway to 6,200 feet.

- **Runway Width:** Widen Runway 3L-21R to 75 feet.

- **T-hangar/shade Development:** There is an existing need to provide additional T-hangars/shades. An area should be developed to make the best use of the airport's available area.

- **Commercial Service Terminal Building:** The existing terminal building does not satisfy the current or long-term facility demands. In addition, the existing terminal building needs to be relocated/re-moved in order to provide the appropriate Building Restriction Line (BRL) clearance. The ability to locate a commercial service terminal building in an area with sufficient access and parking will be examined. In addition, the need for separate commercial service and general aviation terminal buildings will also be examined.

- **Improve Ground Access:** The existing terminal area access road (MacCurdy Drive) causes a "bottleneck" effect at the airport entrance. The ability to enhance access by providing additional access points or enhanced access circulation will be examined.

AIRSIDE DEVELOPMENT CONCEPT

Airside facilities are generally the first consideration in developing airport alternatives because of their primary role in supporting and directing aircraft movements. Airside development also typically dominates airport land use; therefore, selection of an airside concept will usually affect the amount and location of other types of land uses.

Runways and taxiways must be designed to safely and efficiently assist the flow of aircraft to and from the

landside facilities. The primary considerations in airside development are the runway orientation, operational capacity and runway length.

Earlier, in Chapter Three, it was determined that additional capacity is needed to meet the "unconstrained" forecast demand. Ernest A. Love Field is already equipped with a parallel runway, which is one of the most efficient means of increasing capacity, however, another means of increasing capacity is to construct additional taxiway exits in key locations. Based on criteria established in ***Advisory Circular 150/5300-13, Airport Design***, four new high-speed taxiway exits on the primary runway would provide additional airfield capacity. Two of these exits would be located at points approximately 4,500 feet from the runway thresholds in order to meet the needs of the smaller aircraft, while the other two would be located at points approximately 6,500 feet from the runway thresholds meeting the requirements of the larger aircraft. In addition, the extension of the partial-parallel taxiway associated with Runway 12-30 would also enhance the airport's overall operational capacity. The locations of these additional taxiways are illustrated on **Exhibit 4A, Recommended Airside Development**.

Runway length was also examined at Ernest A. Love Field in an effort to enhance aircraft safety during both arrival and departure. Currently, the primary runway is 7,616 feet in length. Based on the evaluation in the previous chapter, it would appear that approximately 9,300 feet of runway length would be needed to adequately accommodate the anticipated fleet mix forecast to use Ernest A. Love Field during the planning period, which includes larger general aviation aircraft and corporate aircraft.

An evaluation of Runway 3R-21L resulted in a determination that it would be economically infeasible to provide any additional runway length to the approach end of Runway 3R, due to the location of an airport access road (Clubhouse Drive), U.S. Highway 89, and the golf course. The approach end of Runway 21L, however, was determined to be capable of accommodating the additional 1,684 feet of runway length.

In order to accommodate the associated taxiway extension, it would be necessary to remove a section of railroad track which is located adjacent to the airport property. Based on conversations with representatives of the City of Prescott, this railroad line has been abandoned and is not expected to be utilized in the future. Development associated with property adjacent to the airport has required the removal of another portion of the railroad track and the acquisition of the associated right-of-way. The City is currently in the process of acquiring the railroad line right-of-way.

In addition, approximately 25 acres of land will need to be acquired by the City in order to provide adequate control over the area encompassed by the Runway 21L Runway Protection Zones (RPZ) and safety areas.

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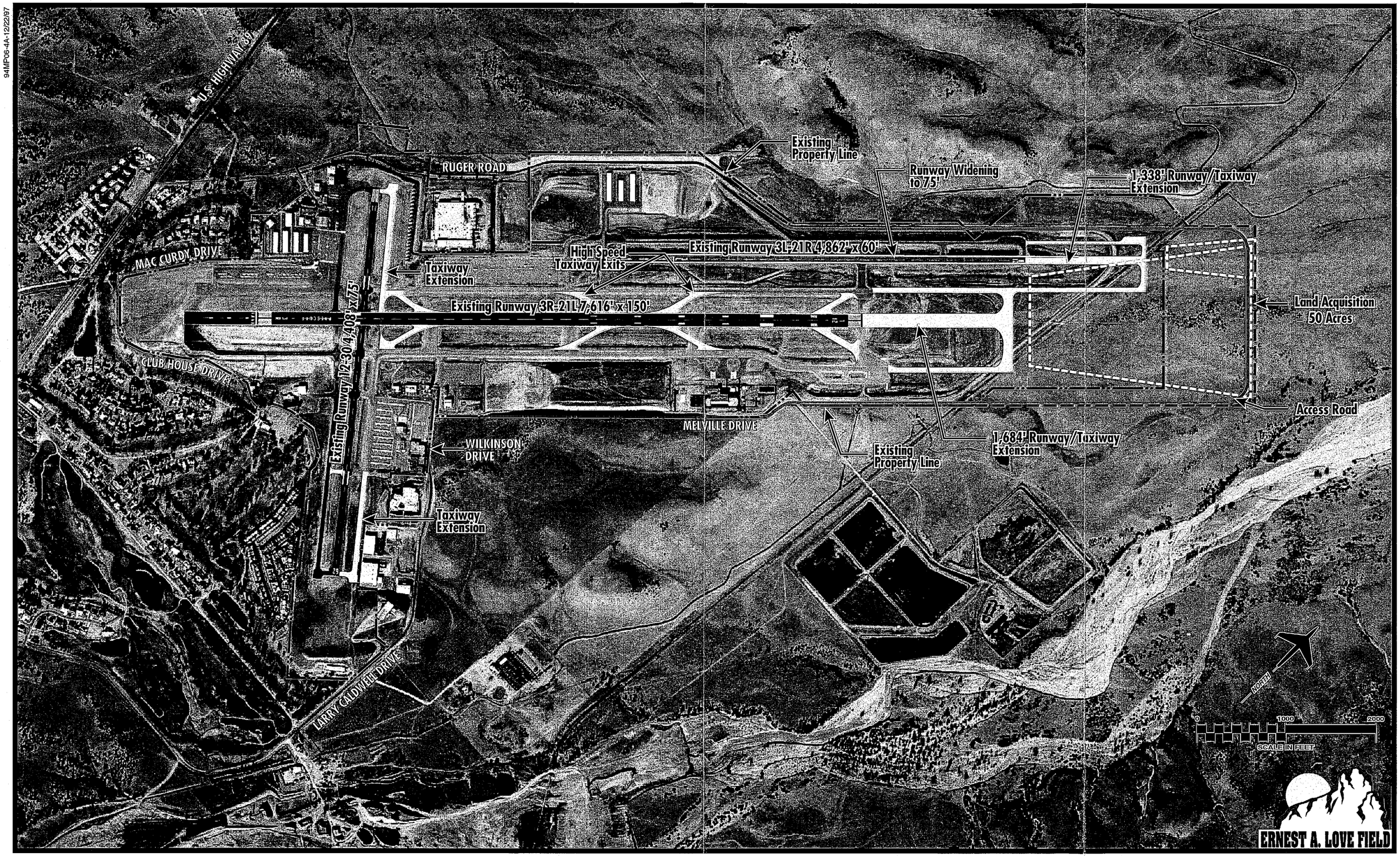

Exhibit 4A
RECOMMENDED AIRSIDE DEVELOPMENT

Additional runway length was also examined for the parallel runway. The parallel runway is currently 4,842 feet in length. Based on the examination in the previous chapter, it would appear that approximately 6,200 feet of runway length would be needed to adequately accommodate the fleet mix anticipated to utilize this runway. In addition, this runway should be widened to 75 feet in width in order to accommodate the existing and forecast aircraft fleet mix. The runway extension would require acquisition of an additional 15 acres of land by the City to insure adequate protection of the RPZ and safety areas for Runway 21R. In addition, runway safety area improvements are proposed, thus, eliminating the adjacent drainage culvert.

Also necessary during the primary runway extension, is the relocation of the Medium Intensity Approach Lighting system (MALSRs), Runway End Identifier Lights (REILs), and Precision Approach Path Indicators (PAPIs). In addition, the Medium Intensity Runway and Taxiway Lights (MIRLs and MITLs) would need to be extended to the end of the new portion of runway/taxiway. The extension of the parallel runway would require similar improvements, such as MIRLs and MITLs. The associated costs of providing these airside enhancements are included in the following section.

AIRSIDE DEVELOPMENT COST

Table 4A, Airside Development Cost, illustrates the "order of magnitude" development costs for providing the runway extensions and associated taxiways. These general costs reflect estimates for the recommended airside development over the 20-year period and should be used only for preliminary evaluation. As shown in **Table 4A**, the estimated cost of this option is approximately $10,341,750.

PRELIMINARY RECOMMENDED AIRSIDE DEVELOPMENT

Pending review and input from the Planning Advisory Committee (PAC), as well as the public, it is recommended that runway/taxiway extensions be constructed to the approach ends of Runway 21L and 21R, thereby providing a primary runway length of 9,300 feet and a parallel runway length of 6,200 feet. In addition, airport capacity can be increased by providing additional taxiway exits on Runway 3R-21L and extensions to the partial-parallel taxiway on Runway 12-30. The layout of the recommended airside development is illustrated on **Exhibit 4A**.

LANDSIDE DEVELOPMENT ALTERNATIVES

There are several landside functions to be accommodated at Ernest A. Love Field including general aviation, commercial service, FBO leaseholds, and U.S. Forest Service. In addition, the ATCT, ARFF, fuel farms, rental cars, etc., are other necessary support facilities which are currently provided.

TABLE 4A
Airside Development Cost
Ernest A. Love Field

Development Item	Quantity	Development Cost
Land Acquisition	50 acres	$1,250,000
Earthwork/Drainage	L.S.	$500,000
Runway 21L Extension	28,100 SY	$1,826,500
Runway 21R Extension	9,000 SY	$180,000
Taxiway Extension (Runway 21L)	25,300 SY	$1,644,500
Taxiway Extension (Runway 21R)	4,500 SY	$90,000
Construct High-Speed Exits	15,000 SY	$975,000
Construct Parallel Taxiway (Runway 12-30)	13,000 SY	$455,000
Runway 3L-21R Safety Area Improvements	L.S.	$500,000
Extend Runway Lighting	6,050 LF	$211,800
Extend Taxiway Lighting	8,960 LF	$313,600
Install Taxiway Lighting	3,200 LF	$112,000
Relocate PAPIs (both Runway 21L and 21R)	L.S	$75,000
Relocate MALSRs	L.S	$100,000
Relocate REILs	L.S	$10,000
Runway/Taxiway Markings	L.S	$30,000
Airside Subtotal		**$8,273,400**
Engineering & Contingencies		$2,068,350
TOTAL AIRSIDE COSTS		**$10,341,750**

The interrelationship of these functional areas is important to defining a long-range landside layout for the airport. Landside facilities should be grouped with similar functions or uses. Each landside alternative must be planned with airfield as well as ground access that is suitable to its function. Runway frontage should be reserved for those uses with a high level of airfield interface. Other activities, with lower levels of aircraft movement, can be placed in more remote areas.

The location of the terminal building at Ernest A. Love Field is a key issue in developing landside alternatives. For this reason, separate alternatives have been developed that locate the terminal building and related facilities in four different locations. Each of the four alternatives address the location of the terminal building and whether the facility should be a combined commercial service and general aviation terminal building. The combined facility would be similar to the existing

terminal, with facilities for commercial service activity, the restaurant, and leaseable office space.

Currently, the commercial service activity at Ernest A. Love Field is subsidized through the Essential Air Service (EIS) program. The EIS program provides a subsidy provided by the Federal government to air carriers serving communities that may not be served otherwise. Of concern, is the potential for the EIS program to be discontinued. With this in mind, planning for a multi-use facility would make the most sense. If a stand-alone commercial service terminal building were constructed, and the EIS program were discontinued, there is a potential for that newly constructed facility to become of no use to the City due to its location on the airport. The following alternatives identify the location of the terminal building, and whether the facility would be a combined or stand-alone facility.

LANDSIDE ALTERNATIVE A

Landside Alternative A redevelops the existing terminal area. This includes constructing a combined commercial service/general aviation terminal building that incorporates the functions of the existing terminal building and provides for expansion capabilities. The existing site would be reconfigured to accommodate the ultimate terminal building, additional auto parking, ground access and rental car parking. The existing terminal building would be removed, allowing for an expansion of tiedowns in this area. The redeveloped terminal area is illustrated on **Exhibit 4B, Landside Alternative A**.

As shown in **Exhibit 4B**, an existing T-shade and one existing T-hangar would be removed and relocated, providing for the terminal building footprint and adjacent auto parking. The existing auto parking area would be extended slightly to the north, also providing for additional parking and access to the new auto parking area.

Since this alternative locates the terminal building in the existing terminal area, the three remaining developable areas can be utilized to support general aviation activities. These facilities include T-hangars/ shades, conventional hangars, tiedowns, and auto parking.

The existing T-hangar/shade area located near the approach end of Runway 3L, would be expanded to accommodate an additional 96 T-hangars/shades. This total would include the relocated T-hangars and T-shades from the existing terminal area. In addition, additional auto parking will be provided adjacent to the expanded T-hangar/shade area. The area immediately northeast, can provide expansion capabilities for an additional 72 T-hangars/shades.

The area immediately southwest of the existing T-hangar/shades is illustrated with three, 12,000 square foot (SF) conventional hangars with adjacent auto parking for use as an FBO or by large corporate users. In addition, approximately 36,000 square yards (SY) of local and transient tiedown apron is shown.

Aircraft parking in the existing terminal area has been reconfigured slightly to make the best use of available apron space. In general, tiedowns for a large portion of the locally based aircraft would be located in the area south of the expanded T-hangar/shade area, while transient tiedown areas would remain associated with the new terminal building and existing or future FBO facilities.

The undeveloped area between Runway 3R-21L and Melville Drive on the south side of the airport, is illustrated with seven, 4-acre and one, 2-acre aviation related commercial/industrial development parcels. Approximately half of the 4-acre parcels lie within the 35-foot Building Restriction Line (BRL). Development within the BRL is permissible, however, building height must be reduced by one foot for each seven feet closer to the runway. The single 2-acre parcel is located outside the BRL.

An FBO type development is shown in the area south of the runway intersections. This development area includes a 12,000 SF conventional hangar, 9,000 SY of apron area, and adjacent auto parking.

Ground access to the existing and proposed facilities is another very important issue at Ernest A. Love Field. One of the primary concerns is that the existing access road (MacCurdy Drive) provides access to multiple locations on the airport. In order to provide access to all existing terminal area facilities, it is necessary to maintain MacCurdy Drive. Improvements to this access road would include widening the roadway to a "boulevard" type road in order to enhance traffic flow through the terminal area.

In order to improve access between the terminal area, the general aviation areas, and the southeast side of the runway system, a circulation access road has been provided around the east end of the runway system, shown on **Exhibit 4A**. This access road will enable airport users to access both sides of the runway system without using U.S. Highway 89. In addition, future access may be provide by the proposed road network depicted in **Exhibit 1H**, Regional Transportation Plan - Regional Element.

LANDSIDE ALTERNATIVE B

The development of a combined commercial service/general aviation terminal facility under Landside Alternative B, shown in **Exhibit 4C, Landside Alternative B**, is located between the existing T-hangar/shade area and the Sturm-Ruger facilities on the north side of the airport. The new combined commercial service/general aviation terminal building is illustrated as being centrally located, with two 12,000 SF conventional hangars on each side of the terminal. These conventional hangar sites are intended to by utilized as FBO development areas. Approximately 23,000 SY of additional apron space is also provided.

The existing T-hangar/shade immediately northeast of the new terminal area, would be expanded to accommodate an additional 96 T-hangars/shades. Adjacent to this

RECENTLY CONSTRUCTED

RUGER ROAD

FUTURE T-HANGAR AREA

495'

495'

MAC CURDY DRIVE

750'

750'

CLUB HOUSE DRIVE

750'

FBO DEVELOPMENT AREA

AVIATION RELATED COMMERCIAL / INDUSTRIAL DEVELOPMENT LOTS

750'

WILKINSON DRIVE

MELVILLE DRIVE

LEGEND:

- Auto Parking
- Apron
- Terminal Building or Conventional Hangar
- Tiedowns
- Terminal Building
- Future Expansion

ERNEST A. LOVE FIELD

Exhibit 4B
LANDSIDE ALTERNATIVE A

RECOMMENDED

Relocated Ruger Road/
U.S. 89 Intersection

RUGER ROAD

RECENTLY CONSTRUCTED

FUTURE T-HANGAR AREA

495'

495'

MAC CURDY DRIVE

750'

750'

750'

750'

CLUB HOUSE DRIVE

FBO DEVELOPMENT AREA

AVIATION RELATED COMMERCIAL / INDUSTRIAL DEVELOPMENT LOTS

MELVILLE DRIVE

WILKINSON DRIVE

LEGEND:

- Auto Parking
- Apron
- Terminal Building or Conventional Hangar
- Tiedowns
- Terminal Building
- Future Expansion

ERNEST A. LOVE FIELD

Exhibit 4C
LANDSIDE ALTERNATIVE B

development, an additional 72 T-hangars/shade can be provided as future expansion, as necessary.

Aircraft parking in the existing terminal area has been slightly reconfigured to make the best use of available apron space. Tiedowns for the locally based aircraft would be located in the existing terminal area, as well as the centrally located apron on the north. The transient tiedown areas would be associated with the new terminal building and existing or future FBO facilities.

In addition to the expanded auto parking associated with the new terminal building, additional auto parking will be provided adjacent to the expanded T-hangar/shade area.

As in Alternative A, the undeveloped area on the south side of the airport is illustrated with aviation related commercial/industrial development lots. Once again, seven, 4-acre and one, 2-acre lots are provided. In addition, the same FBO type development as shown in Alternative A is indicated south of the runway intersections.

Ground access to the new terminal area can be accomplished via U.S. Highway 89 to Ruger Road. Improvements to Ruger Road would be necessary in order to adequately accommodate the increased traffic load. It may be appropriate to provide a lighted intersection at U.S. Highway 89. In order to accomplish this, however, the alignment of Ruger Road may have to be shifted to the north. In addition, as in Alternative A, a circulation access road around the east end of the airport would provide access between the north and south sides of the runway system.

LANDSIDE ALTERNATIVE C

Unlike the two previous alternatives, Landside Alternative C, illustrated in **Exhibit 4D, Landside Alternative C**, illustrates a new commercial service only terminal building southeast of the runway intersections, east of the Airport Traffic Control Tower. By locating the terminal facilities on southeast side of the runway system, a definable separation between commercial activities and general aviation activities can be established. While this may be ideal at most airports, the concern previously presented regarding the City of Prescott's ability to maintain Essential Air Service (EAS) is very important. If EAS would be discontinued and America West Express suspends service, a terminal building constructed in this location may become less useful as a terminal facility since it is not convenient to general aviation activity.

As in the previous alternatives, the existing T-hangar/shade area would be expanded with an additional 96 T-hangars/shades, as well as providing for expansion of an additional 72 T-hangars/shade. In addition, the development area south of the runway intersection illustrates the capability to accommodate an additional 30 T-hangars/shades.

As in Alternative B, the area immediately west of the existing T-hangar/shade development is illustrated with small lot parcels which could

accommodate aviation related commercial/industrial development. A total of twelve, approximately 1.15 acre lots are illustrated. Each of these lots have taxilane access either by the existing taxilane or a new taxilane. Approximately 8,800 SY of additional apron area is provided next to the southern most two lots.

Similar to the previous alternatives, the undeveloped area between Runway 3R-21L and Melville Drive is shown with aviation related commercial/industrial development. Because a portion of this area is utilized for the terminal complex, only five, 4-acres and one, 2-acre parcels are provided.

Aircraft parking in the existing terminal area has been reconfigured to make the best use of available apron space. Tiedowns for a large portion of the locally based aircraft would be located in this area, as well as the area southwest of the expanded T-hangar/shade area. The transient tiedown areas would remain associated with the existing or future FBO facilities.

Ground access to the terminal building in this alternative is provided via U.S. Highway 89, Larry Caldwell Drive, Wilkinson Drive, to Melville Drive. This access route is somewhat inconvenient, however, is adequate for the forecasted number of passengers. Improvements may be necessary to these access roads due to the increased traffic. As in the two previous alternatives, access circulation to this parcel is also provided via the circulation access road on the east side of the airport as discussed in the previous alternatives.

LANDSIDE ALTERNATIVE D

Landside Alternative D, illustrated in **Exhibit 4E, Landside Alternative D**, illustrates the new commercial service only terminal building south of the runway intersection. Once again, by locating the terminal facilities on south side, a definable separation can be established between the commercial activities and the majority of general aviation activities. While this may be ideal at most airports, the concern previously presented regarding the City of Prescott's ability to maintain Essential Air Service (EAS) is very important. If EAS were to be discontinued and the terminal building constructed in this location, the building may become useless as a terminal facility since it is not convenient to general aviation activity. This area is illustrated with the commercial service terminal building, 8,400 SY of apron area, and an adjacent auto parking area.

As in the previous alternatives, the existing T-hangar/shade area would be expanded to accommodate an additional 96 T-hangars/shades, as well as providing for expansion of an additional 72 T-hangars/shades immediately northeast.

The area immediately west of the existing T-hangar/shade development is illustrated with small lot parcels which could accommodate aviation related commercial/industrial development, as

RUGER ROAD

RECENTLY CONSTRUCTED

FUTURE T-HANGAR AREA

495'

495'

MAC CURDY DRIVE

750'

750'

AVIATION RELATED COMMERCIAL / INDUSTRIAL DEVELOPMENT LOTS

CLUB HOUSE DRIVE

750'

750'

AVIATION RELATED COMMERCIAL / INDUSTRIAL DEVELOPMENT LOTS

WILKINSON DRIVE

MELVILLE DRIVE

LEGEND:

- Auto Parking
- Apron
- Terminal Building or Conventional Hangar
- Tiedowns
- Terminal Building
- Future Expansion

ERNEST A. LOVE FIELD

Exhibit 4D
LANDSIDE ALTERNATIVE C

RUGER ROAD

RECENTLY CONSTRUCTED

FUTURE T-HANGAR AREA

495'

495'

MAC CURDY DRIVE

750'

AVIATION RELATED COMMERCIAL / INDUSTRIAL DEVELOPMENT LOTS

750'

CLUB HOUSE DRIVE

750'

AVIATION RELATED COMMERCIAL / INDUSTRIAL DEVELOPMENT LOTS

750'

MELVILLE DRIVE

WILKINSON DRIVE

LEGEND:

- Auto Parking
- Apron
- Terminal Building or Conventional Hangar
- Tiedowns
- Terminal Building
- Future Expansion

ERNEST A. LOVE FIELD

Exhibit 4E
LANDSIDE ALTERNATIVE D

was illustrated in Alternative C. Twelve, approximately 1.15 acre lots are illustrated with each lot having taxilane access either by the existing taxilane or a new taxilane. Approximately 8,800 SY of additional apron area is provided next to the southern most two lots. There two lots could be utilized by FBO type development, since additional aircraft parking may be needed.

As in Alternative A and B, the undeveloped area between Runway 3R-21L is shown with seven, 4-acre parcels and one, 2-acre parcel. These lots are intended to be utilized for aviation related commercial/industrial development.

Aircraft parking in the existing terminal area has been reconfigured to make the best use of available apron space. Tiedowns for a large portion of the locally based aircraft would be located in this area, and the area south of the expanded T-hangar/shade area. The transient tiedown areas would remain associated with the existing or future FBO facilities.

Ground access in this alternative is provided via U.S. Highway 89, MacCurdy Drive, to Clubhouse Drive. This access route is also used to access a residential development south of the proposed new terminal site. Improvements to these access roads would likely be necessary due to the increase in traffic activity in the area. The circulation access road discussed in the three previous alternatives would not provide any additional access to this terminal building location, however has been included to enhance circulation between the two sides of the runway system by the general aviation users.

LANDSIDE DEVELOPMENT COST COMPARISON

Table 4B, Landside Development Cost Comparison, compares "order of magnitude" development costs for the four landside development alternatives. These reflect general cost estimates for landside development and should be used for comparison purposes only. The cost ranges from approximately $10.4 million to $15.9 million.

TABLE 4B
Landside Development Cost Comparison
Ernest A. Love Field

	Landside Alternative			
Development Item	**A**	**B**	**C**	**D**
Site Preparation	$350,000	$300,000	$300,000	$300,000
Construct Taxilanes	$510,000	$510,000	$760,000	$510,000
Relocate T-hangars/T-shades	$10,000	$0	$0	$0
Construct T-hangars/T-shades	$2,580,000	$2,880,000	$3,780,000	$2,880,000
Construct Conventional Hangars	$4,800,000	$3,600,000	$0	$1,200,000
Construct/Expand Apron	$1,570,000	$1,179,000	$540,000	$350,000
Construct Auto Parking	$180,000	$236,000	$225,000	$135,000
Construct Terminal Building	$1,750,000	$1,750,000	$1,750,000	$1,750,000

TABLE 4B (Continued)
Landside Development Cost Comparison
Ernest A. Love Field

Development Item	Landside Alternative A	B	C	D
Terminal Building Demolition	$100,000	$100,000	$100,000	$100,000
Improve Access Roads	$50,000	$100,000	$150,000	$50,000
Construct Access Road	$800,000	$1,000,000	$1,350,000	$975,000
Install Signage	$50,000	$50,000	$50,000	$50,000
Landside Subtotal	**$12,750,000**	**$11,705,000**	**$9,005,000**	**$8,300,000**
Engineering & Contingencies	$3,187,500	$2,926,250	$2,251,250	$2,075,000
TOTAL LANDSIDE COSTS	**$15,937,500**	**$14,631,250**	**$11,256,250**	**$10,375,000**

PRELIMINARY RECOMMENDED LANDSIDE DEVELOPMENT

Pending review and input from the PAC and the public, it is recommended that redevelopment of landside facilities at Ernest A. Love Field occur as identified in **Landside Alternative A**. For the most part, the new combined commercial service/general aviation terminal building would be located generally in the same location as the existing facility. By leaving the terminal building in the existing location, convenient access via an enhanced MacCurdy Drive can be provided. Overall access to the airport can also be enhanced by providing a circulation access loop around the east end of the runway system.

SUPPORT FACILITIES

In addition to the airside and landside facilities, other facilities may enhance airport safety or airport revenues. Two of these types of support facilities are discussed in the following sections.

Potential Airport Surveillance Radar

At some very busy airports, airport surveillance radar (ASR) is provided in addition to an Airport Traffic Control Tower (ATCT). ASR enhances the ATCT's ability to locate aircraft, provide separation, and enhance flow control into and out of the airport area. Generally, an ASR is purchased, installed, maintained, and operated by the FAA.

FAA Order 7031.2C, Airway Planning Standard Number One - Terminal Air Navigation Facilities and Air Traffic Control Services, provides the policy and criteria used in establishing the eligibility of an ASR. In general, the establishment of an ASR is a two-phase process. The first phase is a set of simple generalized criteria. This criteria is a ratio value computed by summing the relative contributory benefits of ASR. If the airport ratio value obtained is equal to or greater than 1.0, the location satisfies the Phase I. It appears that Ernest A. Love

Field meets the Phase I criteria established in FAA Order 7031.2C.

Phase II is a site-specific computerized benefit/cost screening process under which candidates identified under Phase I are further evaluated. This benefit/cost analysis is conducted by the FAA. If the City would interested in pursuing the establishment of an ASR, and since it appears Ernest A. Love Field meets the Phase I criteria, the City should begin communication with the FAA's Western-Pacific Region regarding the completion of the benefit/cost analysis.

Through-the-Fence Access

Another issue at some airports is the establishment of "Through-the-Fence" access. Through-the-fence access is access provided to parcels, persons, or businesses, from off airport property. Generally, this type of access is provided to off-airport commercial/ industrial airparks. The airport operator would charge the entity access the airport an access fee or user fee. These fees will be further examined during the financial analysis later in the master plan study. Through-the-fence access is not prohibited by FAA regulations, however, the FAA recommends that the airport owners refrain from entering into any agreement which grants access to the airport from adjacent off-airport lands. Exceptions can be granted by the FAA on a case-by-case basis where operating restrictions ensure safety and equitable compensation for the use of the airport. Any through-the-fence access should receive FAA's approval prior to the establishment of an access agreement, or the airport sponsor may be found in violation of federal grant assurances. The benefits of through-the-fence access will be further examined in the financial chapter of this master plan.

SUMMARY AND CONCLUSIONS

This chapter has attempted to outline alternative solutions to the key development issues at Ernest A. Love Field. Those key issues involved a runway extension, the location of the commercial terminal facilities, the redevelopment of the general aviation area, and the adequacy of ground access to the landside facilities. The following is a summary of the recommendations:

- Provide a 1,684 foot extension to Runway 21L;
- Provide a 1,358 foot extension to Runway 21R;
- Widen Runway 3R-21L to 75 feet in width;
- Construct a new combined use terminal building in the existing terminal area;
- Redevelop the existing general aviation areas;
- Provide ground access improvements.

Based on these development recommendations, all of the "unconstrained" forecast could be accommodated at the improved Ernest

A. Love Field. At this point, preliminary recommended airside and landside concepts have been proposed for Ernest A. Love Field. Pending review of this chapter and input from the PAC, as well as the public, the following chapters will present a refinement of this basic development concept into a final plan with recommendations and timing for the overall development program.